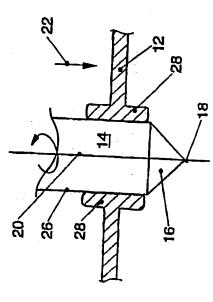
1999-562807/48

Forming opening in exhaust plpe for reception of Lambda probe for internal combustion engine of motor vehicle **VOLKSWAGEN AG**



Novelty: The opening for the lambda probe is carried out using a shaped bit (14), which is axially rotated and acted on with a predetermined force in such a manner, so that its tip (18) is pressed against the exhaust pipe wall (12). So that

the required opening is formed by the flowing of a material of the exhaust pipe. The shaped bit is conically designed.

DE-19811569-A1

Use: Motor vehicle exhaust pipe with opening for Lambda probe.

Advantage: Provides simple and cost effective way of mounting lambda probe in exhaust pipe, without costly working steps e.g. cutting by laser. With flow method material is not removed but deformed.

Description of Drawing(s): The figures 1-3 show the progress steps for the making of an opening for a probe or a sensor in the exhaust pipe of a motor vehicle.

Shaped bit 14

Conical section 16 Tip 18 Company Code: VOLS
Prawing: 3/3
Prawing: 3/3
Prawing: 4

Inrawing: 3/3 Pages: 4 Inventors: LOTZGESELLE G

Derwent Codes: S03-E15; X22-A03F

IPC: B23B 35/00; B21D 31/02; F01N 3/28 Derwent Classes: P52; P54; Q51; S03; X22

Latest Priority: 1998.03.17 1998DE-1011569